

IUBMB Enzyme Nomenclature

EC 3.2.1.149

Common name: β -primeverosidase

Reaction: a 6-*O*-(β -D-xylopyranosyl)- β -D-glucopyranoside + H₂O = 6-*O*-(β -D-xylopyranosyl)- β -D-glucopyranose + an alcohol

Glossary

primeverose = 6-*O*-(β -D-xylopyranosyl)-D-glucose

vicianose = 6-*O*-(α -L-arabinopyranosyl)-D-glucose

Systematic name: 6-*O*-(β -D-xylopyranosyl)- β -D-glucopyranoside 6-*O*-(β -D-xylosyl)- β -D-glucohydrolase

Comments: The enzyme is responsible for the formation of the alcoholic aroma in oolong and black tea. In addition to β -primeverosides [i.e. 6-*O*-(β -D-xylopyranosyl)- β -D-glucopyranosides], it also hydrolyses 6-*O*-(β -D-apiofuranosyl)- β -D-glucopyranosides and, less rapidly, β -vicianosides and 6-*O*-(α -L-arabinofuranosyl)- β -D-glucopyranosides, but not β -glucosides. Geranyl-, linaloyl-, benzyl- and *p*-nitrophenol glycosides are all hydrolysed.

Links to other databases: [BRENDA](#), [EXPASY](#), [KEGG](#), [WIT](#), CAS registry number:

References

1. Ijima, Y., Ogawa, K., Watanabe, N., Usui, T., Ohnishi-Kameyama, M., Nagata, T. and Sakata, K. Characterization of β -primeverosidase, being concerned with alcoholic aroma formation in tea leaves to be processed into black tea, and preliminary observations on its substrate specificity. *J. Agric. Food Chem.* 46 (1998) 1712-1718.
2. Ogawa, K., Ijima, Y., Guo, W., Watanabe, N., Usui, T., Dong, S., Tong, Q. and Sakata, K. Purification of a β -primeverosidase concerned with alcoholic aroma formation in tea leaves (cv. Shuxian) to be processed to oolong tea. *J. Agric. Food Chem.* 45 (1997) 877-882.

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